

WHAT IS CLAIMED IS:

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1. An imaging apparatus comprising:

a taking lens for forming an image of a subject on an imaging surface;

5 an imaging device which is constructed by arranging photoelectric conversion elements in a two-dimensional array and dividing them into photoelectric conversion element groups composed of combinations of lines spaced at specific intervals, and which stores
10 the charges corresponding to the image of the subject formed by said taking lens on the imaging surface;

control means for controlling the charge storage start timing for said imaging device in such a manner that the photoelectric conversion elements belonging to
15 the same photoelectric conversion element group in said imaging device start to store charges with the same timing and the photoelectric conversion elements belonging to another photoelectric conversion element group start to store charges with different timing; and

20 driving means for driving said taking lens along the optical axis on the basis of the image signal read from each of the photoelectric conversion element groups in said imaging device.

25 2. The imaging apparatus according to claim 1, wherein said driving means drives said taking lens to specific positions in synchronization with the charge storage start timing for each of the photoelectric

conversion element groups in said imaging device.

3. The imaging apparatus according to claim 1,
wherein said driving means drives not only said
taking lens to specific positions in synchronization
5 with the charge storage start timing for each of the
photoelectric conversion element groups in said imaging
device but also said taking lens to an in-focus
position on the basis of the result of comparing the
high-frequency components of the image signals read
10 from each of said photoelectric conversion element
groups.

4. The imaging apparatus according to claim 3,
wherein said driving means sets any one of said
specific positions as said in-focus position and
15 driving said taking lens to the in-focus position.

5. The imaging apparatus according to claim 1,
wherein said imaging device includes said photoelectric
conversion elements, a vertical transfer section for
transferring the charges stored in said photoelectric
20 conversion elements vertically, a horizontal transfer
section for transferring the charges from the vertical
transfer section horizontally, and transfer gates
provided between said photoelectric conversion elements
and said vertical transfer section in such a manner
25 that they correspond to the photoelectric conversion
elements on a one-to-one basis to transfer the charges
stored in said photoelectric conversion elements to

said vertical transfer section, and

5 said transfer gates transfer the charges stored in
said photoelectric conversion elements to said vertical
transfer section, when transfer pulses are applied to
the transfer gates at specific intervals of time over
a specific time beginning at the charge storage start
of said photoelectric conversion elements.

6. The imaging apparatus according to claim 5,
further comprising means for changing, according to the
10 brightness of the subject, the period during which said
transfer pulses are applied.

7. An imaging apparatus control method
comprising:

15 the step of causing a taking lens to form an image
of a subject on an imaging surface;

20 the step of storing the charges corresponding to
the image of the subject formed by said taking lens
on the imaging surface in such a manner that, in
an imaging device which is constructed by arranging
photoelectric conversion elements in a two-dimensional
array and dividing them into photoelectric conversion
element groups, the photoelectric conversion elements
belonging to the same group start to store charges with
the same timing and the photoelectric conversion
25 elements belonging to another group start to store
charges with different timing; and

the step of driving said taking lens along the

optical axis on the basis of the image signal read from each of said photoelectric conversion element groups.

8. The imaging apparatus control method according to claim 7, wherein said driving step drives said
5 taking lens to specific positions in synchronization with the charge storage start timing for each of said photoelectric conversion element groups.

9. The imaging apparatus control method according to claim 7, wherein said driving step drives not
10 only said taking lens to specific positions in synchronization with the charge storage start timing for each of said photoelectric conversion element groups but also said taking lens to an in-focus position on the basis of the result of comparing the
15 high-frequency components of the image signals read from each of said photoelectric conversion element groups after the storage.

10. The imaging apparatus control method according to claim 9, wherein, in said driving step, said
20 in-focus position is any one of said specific positions.

11. The imaging apparatus control method according to claim 7, wherein the step of storing the charges corresponding to the image of the subject formed by
25 said taking lens on the imaging surface includes the step of storing charges in said photoelectric conversion elements,

the step of causing transfer gates to transfer
the charges stored in said photoelectric conversion
elements to a vertical transfer section, when transfer
pulses are applied to the transfer gates at specific
5 intervals of time over a specific time beginning at the
charge storage start of said photoelectric conversion
elements,

the step of causing a vertical transfer section
to transfer the transferred charges vertically to
10 a horizontal transfer section, and

the step of transferring the charges from the
vertical transfer section horizontally.

12. The imaging apparatus control method according
to claim 11, wherein the step of transferring charges
15 to said vertical transfer section changes, according to
the brightness of the subject, said specific time
during which said transfer pulses are applied.

ABSTRACT OF THE DISCLOSURE

In an electronic still camera where the signal charges accumulated corresponding to the image of a subject formed by an imaging optical system 1 are read from a CCD and displayed on an LCD via an imaging circuit, an A/D converter, a buffer memory, and a D/A converter, or recorded on a recording memory via a compression/expansion circuit, the photoelectric conversion elements of the CCD are divided into groups composed of combinations of lines spaced at specific intervals, charge accumulation start timing is controlled in such a manner that the elements belonging to the same group start to accumulate charges with the same timing and the elements belonging to another group start to accumulate charges with different timing, an AF processing section 14 finds an in-focus position from the image signal read from each of the photoelectric conversion element groups in the CCD 5, and on the basis of the in-focus position, a focus lens group 3 is driven.